

1.0 Introduction

1.1 Acknowledgements

Creating a residential based environmental school in support of the United States Bureau of Land Management and Clark County School District missions began with a visionary concept proposed by Las Vegas resident, Blaine Benedict.

Under the leadership of the Southern Nevada BLM director, Mark Morse, in collaboration with his Associate Director, Angie Lara, and Red Rock Canyon NCA manager, Tim O'Brien, a remarkable array of private, public and organizational partners, known as the CORE group, was organized and tasked to define the School and its associated Wild Horse and Burro Facility.

The CORE Committee includes numerous special individuals. Of particular note are facilitator Angie Laura and her dedicated chairpersons Jack Ramsey (Operations), Billie Young (Wild Horse and Burro), Paul Buck (Education), Pat Williams (Other Uses), Alan O'Neil (Partnership and Fund Raising), Pam Vilkin (Design Oversight), David Frommer (Design Oversight) and Charles Carrol (NEPA).

Those who have offered expert help include Blaine Benedict, Peg Rees, Helen Mortenson, Patrick Putnam, Pat Fleming, Amy Torres, Loretta Asay, Laura Flynn, Michael Reiland, Ray Lucchesi, Dale Ethridge, Bob Boyd, Kirsten Cannon, John Jamrog, Cathy August, Linda Nations, Liz Warren and Kenny Anderson.

One hundred seventeen individuals, including those mentioned above, participated in 42 workshop sessions defining project parameters. Additionally, uniformly enthusiastic and informative 5th graders and their teachers from Blue Diamond, Sandra Miller, Hancock and CP Squires Schools helped shape our thinking.

Open sharing of information by leading residential environmental schools; IslandWood, Olympic Peninsula Institute, North Cascades Institute, ZYXZYX, and The Desert Learning Center, allowed CORE members to gain first hand knowledge of varying philosophical, pedagogical and operational methodologies.

The project also owes sincere thanks for support to many institutions/organizations/groups and their representatives including, the Nevada Congressional delegation, the Department of the Interior, the Bureau of Land Management, Jay Flood Architect/Yosemite National Institute, the University of Nevada Las Vegas, the Desert Research Institute, the Outside Las Vegas Foundation, the Friends of Red Rock Canyon, the Red Rock Interpretive Association, the Community College of Southern Nevada and the Clark County School District.

-lw

⁹*Revised per BLM. – 7/9/2004*

Oliver Ranch School

Line and Space, LLC 627 East Speedway Tucson, AZ 85705 (520) 623-1313

1.0 Introduction

1.2 Document Description

This document, known as the Architectural Program, defines parameters for design of the new Oliver Ranch Science School.

The information within is based upon the results of general research, individual interviews, workshops facilitated by architect Line and Space, LLC between April 19 and 30th (including 4 days in a tent on site at Oliver Ranch), numerous field trips, and various supporting communications. Goals and objectives, design philosophy, characteristics of site and climate, people, facility goals, pedagogy, space needs, and schedule are addressed in the following pages.

1.3 Mission

To instill stewardship by increasing knowledge and understanding of the Mojave desert ecosystems through a unique experiential discovery program.

- Mission Statement of Oliver Ranch

1.4 Project History

Degradation of natural areas such as the Mojave Desert, indicate a deteriorating planet, and hence, quality of life. In addition to destruction of the environment, the United States is experiencing a decline in those choosing to make science a career; a threat to both our economic viability and national security.

One of the best ways to affect change in our environment and at the same time interest children in science is through effective education.

In 1998, the Southern Nevada Public Land Management Act (SNPLMA) was passed allowing the BLM to sell land and use the proceeds to fund public projects.

Monies from SNPLMA - Rounds 1 and 3 were applied for and received to study the feasibility of creating an environmental education school within the Red Rock Canyon National Conservation Area at Oliver Ranch. This idea was also consistent with the BLM's proposed General Management Plan for this area (dated December, 2000).

Jay Flood Architect, funded with SNPLMA Round 1 monies, under contract to BLM and in conjunction with his consultant Yosemite National Institute, worked closely with the Clark County School District (CCSD), UNLV and a BLM partners group known as the CORE to develop parameters for a 'sleep-over'

Oliver Ranch School

Line and Space, LLC 627 East Speedway Tucson, AZ 85705 (520) 623-1313

1.0 Introduction

immersion school with up to 250 beds, classrooms, dining, labs, an observatory, and a field research station.⁹ In addition, the Wild Horse and Burro program (addressed in a separate program) would be moved to a new facility at a different location within Oliver Ranch. Both facilities would create a strong connection to Oliver Ranch and the Mojave Desert. Based on these criteria a SNPLMA Round 4 submission was developed and approved.

Although the Round 4 funding provides for construction of much of the conventional/physical campus, additional funding is being requested under Round 5 for the incorporation of state-of-the-art sustainable design concepts (solar energy generation, alternative waste treatment and sustainable vehicular access) as well as a fire protection system, hardened trails, teaching shade structures, and outdoor teaching venues. The Round 5 funding is pending.

-ks

⁹per BLM. – 7/9/2004

1.5 Project Summary

This project is the design of a hands-on, residential, outdoor school focusing on science. The primary audience is 5th graders from the Clark County School District.

The mission involves educating students about the Mojave desert ecosystem to encourage them to take personal responsibility for the environment. Field trips, classes, experiments, and projects nurturing art and creativity all recognize different ways of learning.

Site

The School will be constructed within the existing Oliver Ranch on the eastern edge of the Red Rock Canyon National Conservation Area, west of Highway 159, south of Bonnie Springs Road

Design Approach

Design will be of its time and place, responsive to the site within the sensitive environment of the Mojave Desert. To emphasize the mission of teaching children environmental stewardship, design elements will be integrated and expressed in order to demonstrate the understanding that land ethic and life ethic are not separable.

Design will consider recommendations as outlined in the Environmental Assessment of the Oliver Ranch site, comply with requirements of regulatory building codes, and will undergo the BLM review and approval process.

Oliver Ranch School

Line and Space, LLC 627 East Speedway Tucson, AZ 85705 (520) 623-1313

1.0 Introduction

The entire location will be “tourable”. Security and safety are an important parameter.⁹

⁹per BLM. – 7/9/2004

People

Primary users will be the 5th grade students of Clark County School District (facility is projecting 5,000 - 10,000 students per year, depending on the duration of stay...2 to 4 days), and researchers. Facilities will be provided for the students and their teachers/chaperones for an on-site ‘sleep-over’ experience of 2-4 days, as well as accommodations for the school’s teaching, administration, support staff, and visiting researchers (3 maximum).

Facility

To meet the goals of the Oliver Ranch Science School, approximately 31,200 sf of net interior space is needed (note, summary list does not include unconditioned spaces such as the Greenhouse, Observatory, Outdoor Areas, and Parking):

• Administration	3,420 sf
• Student/Teacher/Chaperone Housing	10,920 sf
• Dining Area (interior)	2,525 sf
• Kitchen	1,000 sf
• Central Restroom Facility	730 sf
• Fitting/Laundry	980 sf
• Classrooms/Labs	3,450 sf
• Research Area	900 sf
• Art Room	600 sf
• Instructor Housing	4,620 sf
• Laundry	170 sf
• Caretaker Housing	900 sf
• Maintenance/Support	1,040 sf
Subtotal	±31,200 sf

When determining building requirements it is important to recognize the difference between net and gross areas. The net area is the actual required square footage necessary to meet objectives. Gross square footage reflects the building size when structure and circulation are added in:

31,200 sf x 1.3 grossing factor = 40,560 sf **say 41,000 sf**

Additionally, 33,500 sf (not the final number) of closely related unconditioned and exterior space will allow for the Greenhouse, Observatory, shaded Outdoor Areas, and Parking.

Oliver Ranch School

Line and Space, LLC 627 East Speedway Tucson, AZ 85705 (520) 623-1313

1.0 Introduction

Pedagogy*

The focus will be education in the environment (as opposed to environmental education) for 5th graders attending school in the Clark County School District.

Originally described, the facility was to hold “up to 250 students”. However, 250 students cannot be supported by the site (i.e. available water), nor will the experience of being immersed, and sometimes isolated in the environment, be maintained. During programming workshops, it was decided that the number of students should be in proportion to class size.

Three classes of 35 students (total of 105) is the maximum on-site population the Oliver Ranch Science School will accommodate.

Classes of 35 will stay together in sleeping accommodations. Chaperones will be present at a ratio of approximately 1:10 or 1:12

For educational purposes students will be divided into groups of 10-12 and be taught by Oliver Ranch staff instructors

Teaching will primarily occur in outside venues and “flex labs”. There will be no traditional classrooms.

Currently ‘Full Option Science System’ (FOSS) Kits form the basis of science instruction for 5th graders in the Clark County School District. The curriculum will be designed to support and supplement this approach.

Schedule

Please note that this is a tentative project schedule and remains to be reviewed and approved by the BLM:

- Design Program complete July 19, 2004
- Schematic Design complete December 10, 2004
- Environmental Assessment
December 13, 2004 to August 30, 2005
- Design Development complete July 24, 2005
- Construction Documents complete March 3, 2006
- Start Construction July 2006
- Anticipate move-in November 2007
- Facility open December 2007

*activities that impart knowledge

Oliver Ranch School

Line and Space, LLC 627 East Speedway Tucson, AZ 85705 (520) 623-1313